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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,399	03/01/2004	Junichi Hibino	62478-6536	2678

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EXAMINER

COLON, GERMAN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/790,399	Applicant(s) HIBINO ET AL.	
	Examiner German Colón	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-29, 31, 35 and 60-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-29, 31, 35 and 60-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/786,692.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/1/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Preliminary Amendment

1. The Pre-Amendment, filed on March 01, 2004, has been entered and acknowledged by the Examiner.
2. Cancellation of claims 1-23, 30, 32-34 and 36-59 has been entered.
3. Addition of claims 60-63 has been entered.

Specification

4. The disclosure is objected to because of the following informalities:

The Brief Description of the Drawings refers to Fig. 4 and Fig. 41, however, the drawings comprise Figs. 4A, 4B and Figs. 41A, 41B.

Appropriate correction is required.

Claim Objections

5. Claim 29 is objected to because of the following informalities:

Claim 29, line two recites the limitation “the first removing process *forms* holes *removes* parts of...” which is unclear. For the purpose of examination the Examiner understood said limitation as either “the first removing process *for forming* holes *removes* parts of...” or “the first removing process *forms* holes *by removing* parts of...”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 27-29, 31, 35, 61 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 recites the limitation "the first member" in lines 12 and 14. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 28-29, 31, 35, 61 and 63, the claims are rejected over the reasons stated in claim 27, because of their dependency status from claim 27.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki et al. (US 6,353,287).

Regarding claim 24, Sasaki discloses a display panel manufacturing method, for connecting a pair of substrates arranged in opposition via a bonding agent arranged on a plurality of barrier ribs formed in a specific pattern on at least one of the substrates (see at least Figs. 1, 2 and 16), the display panel manufacturing method comprising:

an indentation forming process for forming at least one indentation in a center of each barrier rib top, when viewed widthwise (see Fig. 16 and Col. 22, lines 15-32); and

a bonding agent arranging process for arranging the bonding agent in the indentations (see Col. 22, lines 32-38).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 6,353,287) in view of Asano et al. (US 6,008,582).

Regarding claim 25, Sasaki discloses the claimed invention except for the limitation of “the barrier rib pattern being formed by pressing a pattern-forming member, the indentation forming process being performed simultaneously”. Sasaki discloses the ribs with the indentations being formed simultaneously, but by an alternative method including a resist and filling the rib material in grooves on said resist.

However, in the same field of endeavor, Asano discloses a method of making a display panel including barrier ribs with indentations and teaches a pattern-forming member to be suitable in the formation of fine patterns because allows curtailing time while increasing the yield and accuracy of a pattern having uniform thickness (see Col. 15, lines 29-34; and Col. 19, lines 10-14, in view of Figs. 14 and 15). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the barrier ribs by pressing a pattern-forming member in order to reduce manufacturing time while increasing the yield and accuracy of the (barrier rib) pattern provided with uniform thickness.

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 6,353,287) in view of Sun et al. (US 6,129,603).

Regarding claim 26, Sasaki discloses the claimed invention but is silent regarding the limitation of “the bonding agent arranging process being performed by injection the bonding agent using a nozzle”. Sasaki discloses the bonding agent arranging process comprising screen printing.

However, Sun discloses a method of sealing a display panel comprising the deposition of a patterned bonding agent, and teaches a process comprising screen printing and a process

comprising injecting the bonding agent using a nozzle as art recognized equivalents in the deposition of adhesives (see Col. 5, lines 60-63). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a nozzle, as disclosed by Sun, instead of screen printing, as disclosed by Sasaki, since Sun teaches both to be art recognized equivalent processes in the deposition of a bonding agent. Further, it is well known that a nozzle-injection allows deposition of a material in fine patterns and one having ordinary skill in the art would entertain the idea of depositing the bonding agent by said alternative method. Moreover, it has been held to be within the general skill of an artisan to select a known process on the basis of its suitability for the intended use as a matter of obvious design choice.

13. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki-Asano as applied to claim 25 above, and further in view of Sun et al. (US 6,129,603).

Sasaki-Asano discloses the claimed invention except for the limitation of “the bonding agent arranging process being performed by injection the bonding agent using a nozzle”. Sasaki discloses the bonding agent arranging process comprising screen printing.

However, Sun discloses a method of sealing a display panel comprising the deposition of a patterned bonding agent, and teaches a process comprising screen printing and a process comprising injecting the bonding agent using a nozzle as art recognized equivalents in the deposition of adhesives (see Col. 5, lines 60-63). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a nozzle, as disclosed by Sun, instead of screen printing, as disclosed by Sasaki, since Sun teaches both to be art recognized equivalent processes in the deposition of a bonding agent. Further, it is well known that a

nozzle-injection allows deposition of a material in fine patterns and one having ordinary skill in the art would entertain the idea of depositing the bonding agent by said alternative method. Moreover, it has been held to be within the general skill of an artisan to select a known process on the basis of its suitability for the intended use as a matter of obvious design choice.

14. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 6,353,287) in view of Browning (US 6,030,267).

Regarding claim 62, Sasaki discloses the claimed invention except for the limitation of “the bonding agent being arranged on the barrier ribs using a compound including a substance which is more difficult to melt than the bonding agent”. However, in the same field of endeavor, Browning teaches a manufacturing process for display panels wherein a bonding agent includes a substance more difficult to melt than the bonding agent with the purpose of accurately maintaining an alignment of the substrates as fast as possible and at low temperatures (see Col. 2, lines 32-36 and 54-55). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Browning of providing a bonding agent comprising a substance which is more difficult to melt than the bonding agent in order to accurately maintaining an alignment of the substrates as fast as possible and at low temperatures.

15. Claims 27, 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 6,353,287) in view of Kimura et al. (US 6,352,656).

Referring to claims 27 and 29, Sasaki discloses a display panel manufacturing method, for connecting a pair of substrates in opposition via a bonding agent arranged on a plurality of

barrier ribs formed in a specific pattern on at least one of the substrates (see at least Figs. 1, 2 and 16), wherein the process for arranging the bonding agent on the barrier ribs includes:

- a removing process for forming holes at positions corresponding to tops of the barrier ribs; and

- a bonding agent filling process for filling the holes on the tops of the barrier ribs.

Sasaki discloses the removing process including irradiating with laser light, but is silent regarding the steps to carry out said removing process.

However, Kimura discloses a process for forming grooves with laser light comprising:

- attaching a resist layer and irradiating said layer with laser light to form a mask (i.e. an attaching process for attaching a bonding agent positioning member and a first removing process for removing parts of the bonding agent positioning member); and

- removing the remaining resist layer (i.e. removing the remaining bonding agent positioning member). Kimura teaches this process to provide an enhanced depth accuracy in forming indentations with good reproducibility (see Col. 1, lines 30-31, 43-46 and 50; and col. 2, lines 41-44). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of Kimura in the indentation forming process disclosed by Sasaki, in order to provide an enhanced depth accuracy in forming indentations with good reproducibility.

Referring to claim 35, Sasaki-Kimura discloses removing the remainder of the bonding agent positioning member (resist).

16. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki-Kimura as applied to claim 27 above, and further in view of Browning (US 6,030,267).

Regarding claim 63, Sasaki-Kimura discloses the claimed invention except for the limitation of “the bonding agent being arranged on the barrier ribs using a compound including a substance which is more difficult to melt than the bonding agent”. However, in the same field of endeavor, Browning teaches a manufacturing process for display panels wherein a bonding agent includes a substance more difficult to melt than the bonding agent with the purpose of accurately maintaining an alignment of the substrates as fast as possible and at low temperatures (see Col. 2, lines 32-36 and 54-55). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Browning of providing a bonding agent comprising a substance which is more difficult to melt than the bonding agent in order to accurately maintaining an alignment of the substrates as fast as possible and at low temperatures.

Allowable Subject Matter

17. Claims 28, 31 and 61 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 28 and 61, the references of the Prior Art of Record fail to teach the combination of the limitations as set forth in claim 28, and specifically comprising the limitation

of “the attaching process being performed after an even connecting layer is formed on either the barrier ribs or the bonding agent positioning member.

Referring to claim 31, the references of the Prior Art of Record fail to teach the combination of the limitations as set forth in claim 31, and specifically comprising the limitation of “a material used for the barrier rib tops absorbs laser light more easily than a material used for other parts of the barrier ribs”.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 571-272-2451. The examiner can normally be reached on Monday thru Thursday, from 8:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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